

PATENT  
 Docket No. 373722001822  
 Client Ref. No. A007CIP3

**DECLARATION FOR UTILITY PATENT APPLICATION**

AS BELOW-NAMED INVENTORS, WE HEREBY DECLARE THAT:

Our residence, post office address, and citizenship are as stated below next to our names.

We believe we are the original, first and joint inventors of the subject matter which is claimed and for which a patent is sought on the invention entitled: APPARATUS AND METHOD TO VERTICALLY ROUTE AND CONNECT MULTIPLE OPTICAL FIBERS, the specification of which is filed herewith in the U.S. Patent and Trademark Office.

WE HEREBY STATE THAT WE HAVE REVIEWED AND UNDERSTAND THE CONTENTS OF THE ABOVE-IDENTIFIED SPECIFICATION, INCLUDING THE CLAIMS, AS AMENDED BY ANY AMENDMENT REFERRED TO ABOVE.

We acknowledge the duty to disclose information which is material to the patentability as defined in 37 C.F.R. § 1.56.

We hereby claim foreign priority benefits under 35 U.S.C. § 119(a)-(d) or § 365(b) of any foreign application(s) for patent or inventor's certificate, or § 365(a) of any PCT International application which designated at least one country other than the United States listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate, or PCT International application having a filing date before that of the application on which priority is claimed:

| Application No. | Country | Date of Filing<br>(day/month/year) | Priority Claimed?  |
|-----------------|---------|------------------------------------|--|
|                 |         |                                    | <input type="checkbox"/> Yes <input type="checkbox"/> No |

We hereby claim benefit under 35 U.S.C. § 119(e) of any United States provisional application(s) listed below:

| Application Serial No. | Filing Date |
|------------------------|-------------|
|                        |             |

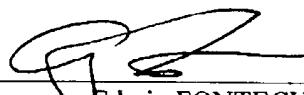
We hereby claim the benefit under 35 U.S.C. § 120 of any United States application(s), or § 365(c) of any PCT International application designating the United States, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of 35 U.S.C. § 112, I acknowledge the duty to disclose information which is material to patentability as defined in 37 C.F.R. § 1.56 which became available between the filing date of the prior application and the national or PCT International filing date of this application.

| Application Serial No. | Filing Date | Status   |
|------------------------|-------------|--|
| 09/724,829             | 11/28/2000  | <input type="checkbox"/> Patented <input checked="" type="checkbox"/> Pending <input type="checkbox"/> Abandoned |
| To Be Assigned         | 06/21/2001  | <input type="checkbox"/> Patented <input checked="" type="checkbox"/> Pending <input type="checkbox"/> Abandoned |
| 09/654,459             | 09/01/2000  | <input type="checkbox"/> Patented <input checked="" type="checkbox"/> Pending <input type="checkbox"/> Abandoned |

We hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under § 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

7/11/01

Date



Name: Edwin FONTECHA  
 Residence: San Jose, California  
 Citizenship: United States  
 Post Office Address: 5299 Country Oak Court, San Jose, California  
 95136

7-11-01

Date



Name: Mohammad Zubair KHAN  
 Residence: San Jose, California  
 Citizenship: United States  
 Post Office Address: 3238 Orange Street, San Jose, California 95127

PATENT  
Docket No. 373722001822  
Client Ref. No. A007CIP3

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the application of:

Edwin FONTECHA and Mohammad Zubair KHAN

Serial No.: To Be Assigned

Filing Date: Herewith

For: APPARATUS AND METHOD TO  
VERTICALLY ROUTE AND  
CONNECT MULTIPLE OPTICAL  
FIBERS

Examiner: To Be Assigned

Group Art Unit: To Be Assigned

**PROSECUTION BY ASSIGNEE AND POWER OF ATTORNEY  
UNDER 37 C.F.R. § 3.71**

BOX PATENT APPLICATION  
Assistant Commissioner for Patents  
Washington, D.C. 20231

Dear Sir:

Lightwave Microsystems Corporation, the assignee of the entire right, title and interest in this patent application, under 37 C.F.R. § 3.71 hereby appoints:

|                                      |   |
|--------------------------------------|---|
| Randolph Ted Apple (Reg No. 36,429)  | Laurie A. Axford (Reg No. 35,053)       |
| Sanjay S. Bagade (Reg No. 42,280)    | Josceph Barrera (Reg No. 44,522)        |
| Erwin J. Basinski (Reg No. 34,773)   | Shantanu Basu (Reg No. 43,318)          |
| Richard R. Batt (Reg No. 43,485)     | Frank P. Becking (Reg No. 42,309)       |
| Vincent J. Belusko (Reg No. 30,820)  | Jonathan Bockman (Reg No. 45,640)       |
| Kimberly A. Bolin (Reg No. 44,546)   | Barry E. Bretschneider (Reg No. 28,055) |
| Tyler S. Brown (Reg No. 36,465)      | Nicholas Buffinger (Reg No. 39,124)     |
| A. Randall Camacho (Reg No. 46,595)  | Mark R. Carter (Reg No. 39,131)         |
| Robert K. Cerpa (Reg No. 39,933)     | Peng Chen (Reg No. 43,543)              |
| Alex Chartove (Reg No. 31,942)       | Thomas Chuang (Reg No. 44,616)          |
| Thomas E. Ciotti (Reg No. 21,013)    | Cara M. Coburn (Reg No. 46,631)         |
| Matthew M. D'Amore (Reg No. 42,457)  | Raj S. Davé (Reg No. 42,465)            |
| Peter Davis (Reg No. 36,119)         | Stephen C. Durant (Reg No. 31,506)      |
| Carolyn A. Favorito (Reg No. 39,183) | David L. Fehrman (Reg No. 28,600)       |
| Hector Gallegos (Reg No. 40,614)     | Thomas George (Reg No. 45,740)          |
| Debra J. Glaister (Reg No. 33,888)   | Kenneth R. Glick (Reg No. 28,612)       |
| Johney U. Han (Reg No. 45,565)       | Douglas G. Hodder (Reg No. 41,840)      |
| Alan S. Hodes (Reg No. 38,185)       | Charles D. Holland (Reg No. 35,196)     |

Peter Hsieh (Reg No. 44,780)  
 Madeline I. Johnston (Reg No. 36,174)  
 Parisa Jorjani (Reg No. 46,813)  
 Richard C. Kim (Reg No. 40,046)  
 Kawai Lau (Reg No. 44,461)  
 Michael J. Mauriel (Reg No. 44,226)  
 Philip A. Morin (Reg No. P-45,926)  
 Martin M. Noonan (Reg No. 44,264)  
 Paul J. Riley (Reg No. 38,596)  
 Terri Shieh-Newton (Reg No. 47,081)  
 Kevin R. Spivak (Reg No. 43,148)  
 Michael R. Ward (Reg No. 38,651)  
 Todd W. Wight (Reg No. 45,218)  
 David T. Yang (Reg No. 44,415)  
 George C. Yu (Reg No. 44,418)

Wayne Jaeschke, Jr. (Reg No. 38,503)  
 Richard D. Jordan (Reg No. 33,519)  
 Ararat Kapouytian (Reg No. 40,044)  
 Cameron A. King (Reg No. 41,897)  
 Rimas T. Lukas (Reg No. 46,451)  
 Gladys H. Monroy (Reg No. 32,430)  
 Kate H. Murashige (Reg No. 29,959)  
 Catherine M. Polizzi (Reg No. 40,130)  
 Debra A. Shetka (Reg No. 33,309)  
 Rebecca Shortle (Reg No. 47,083)  
 Stanley H. Thompson (Reg No. 45,160)  
 E. Thomas Wheelock (Reg No. 28,825)  
 Frank Wu (Reg No. 41,386)  
 Peter J. Yim (Reg No. 44,417)  
 Karen R. Zachow (Reg No. 46,332)

all of Morrison & Foerster LLP, 755 Page Mill Road, Palo Alto, California 94304-1018, telephone (650) 813-5600, to prosecute this application and transact all matters in the United States Patent and Trademark Office connected therewith, said appointment to be to the exclusion of the inventors and their attorneys in accordance with the provisions of 37 C.F.R. § 3.71 provided that if any one of said attorneys or agents ceases being affiliated with the law firm of Morrison & Foerster as partner, employee or of counsel, such attorney's or agent's appointment as attorney or agent and all powers derived therefrom shall terminate on the date such attorney or agent ceases being so affiliated.

Please direct all written communications relative to this application to:

Johnney U. Han  
 Morrison & Foerster LLP  
 755 Page Mill Road  
 Palo Alto, California 94304-1018

Please direct all telephone communications to Johnney U. Han at (650) 813-5777.

Lightwave Microsystems Corporation  
 a Delaware corporation

Dated: 7/10/01



Name: Martin J. Lundie  
 Title: Vice President and CFO  
 Address: 2911 Zanker Road  
 San Jose, California 95134

ASSIGNMENT  
JOINT

COPY

THIS ASSIGNMENT, by Edwin FONTECHA and Mohammad Zubair KHAN (hereinafter referred to as the assignors), residing at 5299 Country Oak Court, San Jose, California 95136 and 3238 Orange Street, San Jose, California 95127; respectively, witnesseth:

WHEREAS, said assignors have invented certain new and useful improvements in APPARATUS AND METHOD TO VERTICALLY ROUTE AND CONNECT MULTIPLE OPTICAL FIBERS, set forth in an application for Letters Patent of the United States, having an oath or declaration executed on even date herewith; and

WHEREAS, Lightwave Microsystems Corporation, a corporation duly organized under and pursuant to the laws of Delaware and having its principal place of business at 2911 Zanker Road, San Jose, California 95134 (hereinafter referred to as the assignee) is desirous of acquiring the entire right, title and interest in and to said inventions and said application for Letters Patent of the United States, and in and to any Letters Patent or Patents, United States or foreign, to be obtained therefor and thereon:

NOW, THEREFORE, in consideration of One Dollar (\$1.00) and other good and sufficient consideration, the receipt of which is hereby acknowledged, said assignors have sold, assigned, transferred and set over, and by these presents do sell, assign, transfer and set over, unto said assignee, its successors, legal representatives and assigns, the entire right, title and interest in and to the above-mentioned inventions, application for Letters Patent, and any and all Letters Patent or Patents in the United States of America and all foreign countries which may be granted therefor and thereon, and in and to any and all divisions, continuations and continuations-in-part of said application, or reissues or extensions of said Letters Patent or Patents, and all rights under the International Convention for the Protection of Industrial Property, the same to be held and enjoyed by said assignee, for its own use and the use of its successors, legal representatives and assigns, to the full end of the term or terms for which Letters Patent or Patents may be granted, as fully and entirely as the same would have been held and enjoyed by the assignors, had this sale and assignment not been made.

AND for the same consideration, said assignors hereby covenant and agree to and with said assignee its successors, legal representatives and assigns, that, at the time of execution and delivery of these presents, said assignors are the sole and lawful owners of the entire right, title and interest in and to said inventions and the application for Letters Patent above-mentioned, and that the same are unencumbered and that said assignors have good and full right and lawful authority to sell and convey the same in the manner herein set forth.

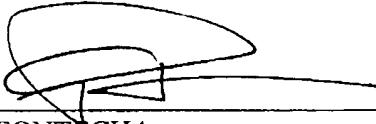
AND for the same consideration, said assignors hereby covenant and agree to and with said assignee, its successors, legal representatives and assigns, that said assignors will, whenever counsel of said assignee, or the counsel of its successors, legal representatives and assigns, shall advise that any proceeding in connection with said inventions, or said application for Letters Patent, or any proceeding in connection with Letters Patent for said inventions in any country, including interference proceedings, is lawful and desirable, or that any division, continuation or continuation-in-part of any application for Letters Patent or any reissue or extension of any Letters Patent, to be obtained thereon, is lawful and desirable, sign all papers and documents, take all lawful oaths, and do all acts necessary or required to be done for the procurement, maintenance, enforcement and

Attorney Docket No.: 373722001822  
Client Ref. No. A007CIP3

defense of Letters Patent for said inventions, without charge to said assignee, its successors, legal representatives and assigns, but at the cost and expense of said assignee, its successors, legal representatives and assigns. **COPY**

AND said assignors hereby request the Commissioner of Patents to issue said Letters Patent of the United States to said assignee as the assignee of said inventions and the Letters Patent to be issued thereon for the sole use of said assignee, its successors, legal representatives and assigns.

7-10-01  
Date

  
Edwin FONTECHA

State of California )  
County of Santa Clara )ss.

On July 10, 2001, before me, Barbara deRuyter, Notary Public,  
*July 10, 2001*  
Date

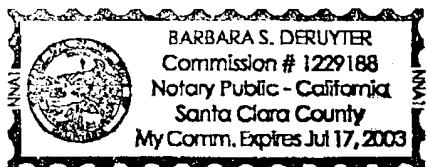
personally appeared **Edwin Fontech**,

Name(s) of Signer(s)

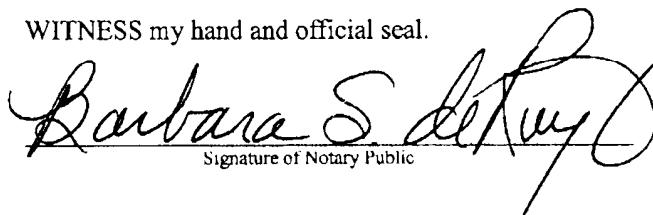
personally known to me  
 proved to me on the basis of satisfactory evidence

to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.



Place Notary Seal Above

  
Signature of Notary Public

Attorney Docket No.: 373722001822  
Client Ref. No. A007CIP3

**COPY**

7-10-01  
Date

Dr. Zubair Khan  
Mohammad Zubair KHAN

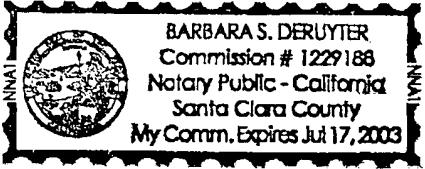
State of California )  
County of Santa Clara )ss.

On July 10, 2001, before me, Barbara deRuyter, Notary Public,  
personally appeared **Mohammad Zubair KHAN**,

personally known to me  
 proved to me on the basis of satisfactory evidence

to be the person(s) whose name(s) is/are subscribed to  
the within instrument and acknowledged to me that  
he/she/they executed the same in his/her/their  
authorized capacity(ies), and that by his/her/their  
signature(s) on the instrument the person(s), or the  
entity upon behalf of which the person(s) acted,  
executed the instrument.

WITNESS my hand and official seal.

  
Barbara S. deRuyter  
Signature of Notary Public

Place Notary Seal Above

Applicant/Patentee: Edwin FONTECHA and Mohammad Zubair KHAN Docket No.: 373722001822  
 Serial No./Patent No.: To Be Assigned Client Reference: A007 CIP3  
 Filed on/Issued : Herewith  
 For: APPARATUS AND METHOD TO VERTICALLY ROUTE AND CONNECT MULTIPLE OPTICAL FIBERS

**VERIFIED STATEMENT CLAIMING SMALL ENTITY STATUS  
 37 C.F.R. §§ 1.9(f) AND 1.27(c) — SMALL BUSINESS CONCERN**

I hereby declare that I am

the owner of the small business concern identified below:  
 an official of the small business concern empowered to act on behalf of the concern identified below:

NAME OF CONCERN: Lightwave Microsystems Corporation

ADDRESS OF CONCERN: 2911 Zanker Road, San Jose, California 95134

I hereby declare that the above identified small business concern qualifies as a small business concern as defined in 13 C.F.R. § 121.12, and reproduced in 37 C.F.R. § 1.9(d), for purposes of paying reduced fees to the United States Patent and Trademark Office, in that the number of employees of the concern, including those of its affiliates, does not exceed 500 persons. For purposes of this statement, (1) the number of employees of the business concern is the average over the previous fiscal year of the concern of the persons employed on a full-time, part-time or temporary basis during each of the pay periods of the fiscal year, and (2) concerns are affiliates of each other when either, directly or indirectly, one concern controls or has the power to control the other, or a third party or parties controls or has the power to control both.

I hereby declare that rights under contract or law have been conveyed to and remain with the small business concern identified above with regard to the invention, entitled APPARATUS AND METHOD TO VERTICALLY ROUTE AND CONNECT MULTIPLE OPTICAL FIBERS by inventor(s) Edwin FONTECHA and Muhammad Zubair KHAN described in

the specification filed herewith with title as listed above.  
 the application identified above.  
 the patent identified above.

If the rights held by the above identified business concern are not exclusive, each individual, concern or organization having rights in the invention must file separate verified statements averring to their status as small entities, and no rights to the invention are held by any person, other than the inventor, who would not qualify as an independent inventor under 37 C.F.R. § 1.9(c) if that person made the invention, or by any concern which would not qualify as a small business concern under 37 C.F.R. § 1.9(d), or a nonprofit organization under 37 C.F.R. § 1.9(c).

Each person, concern or organization having any rights in the invention is listed below:

no such person, concern, or organization exists.  
 each such person, concern or organization is listed below.

| NAME | ADDRESS | TYPE  |
|------|---------|---|
|      |         | <input type="checkbox"/> Individual<br><input type="checkbox"/> Small Business Concern<br><input type="checkbox"/> Nonprofit Organization |

Separate verified statements are required from each named person, concern or organization having rights to the invention averring to their status as small entities. (37 C.F.R. § 1.27)

I acknowledge the duty to file, in this application or patent, notification or any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. (37 C.F.R. § 1.28(b))

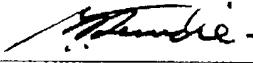
I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this verified statement is directed.

NAME OF PERSON SIGNING:

Martin J. Lundic

TITLE OF PERSON IF OTHER THAN OWNER: Vice President and CFO

ADDRESS OF PERSON SIGNING: 2911 Zanker Road, San Jose, California 95134

SIGNATURE: 

DATE: 7/10/01

PTO/SB/96 (10-92)

## CERTIFICATE UNDER 37 C.F.R. § 3.73(b)

Docket No. 37372001822  
Client Reference: A007CIP3

In the application of: Edwin FONTECHA and Mohammad Zubair KHAN  
 Serial No.: To Be Assigned  
 Filed: Herewith  
 For: APPARATUS AND METHOD TO VERTICALLY ROUTE AND CONNECT MULTIPLE  
 OPTICAL FIBERS

Lightwave Microsystems Corporation, a corporation, certifies that it is the assignee of the entire right, title and interest in the patent application identified above by virtue of either:

A.  An assignment from the inventor(s) of the patent application identified above. The assignment was recorded in the Patent and Trademark Office at Reel \*, Frame \*, or for which a copy thereof is attached.

OR

B.  A chain of title from the inventor(s) of the patent application identified above, to the current assignee as shown below:

1. From : \*  
 To: \*

The document was recorded in the Patent and Trademark Office at Reel \*, Frame \*, or for which a copy thereof is attached.

2. From : \*  
 To: \*

The document was recorded in the Patent and Trademark Office at Reel \*, Frame \*, or for which a copy thereof is attached.

3. From : \*  
 To: \*

The document was recorded in the Patent and Trademark Office at Reel \*, Frame \*, or for which a copy thereof is attached.

Additional documents in the chain of title are listed on a supplemental sheet.

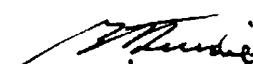
Copies of assignments or other documents in the chain of title are attached.

The undersigned has reviewed all the documents in the chain of title of the patent application identified above and, to the best of undersigned's knowledge and belief, title is in the assignee identified above.

The undersigned (whose title is supplied below) is empowered to sign this certificate on behalf of the assignee.

I hereby declare that all statements made herein of my own knowledge are true, and that all statements made on information and belief are believed to be true; and further, that these statements are made with the knowledge that willful false statements, and the like so made, are punishable by fine or imprisonment, or both, under Section 1001, Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Dated: 7/10/01



Name: Martin J. Lundie  
 Title: Vice President and CFO